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Two-step photoconductivity in LiYxLu1 – xF4:Ce,Yb crystals

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Abstract

© 2016, Pleiades Publishing, Ltd.Photoconductivity of LiYxLu1–xF4:Ce,Yb (x = 0–1) crystals is measured under one- and two-step excitation. It is established that the photoconductivity is due to intra-center transitions from excited states of Ce3+ ions. The position of the ground 4 f-state of Ce3+ ion relative to the bottom of the conduction band is determined. The choice of pumping conditions to obtain the lasing on the 5d–4f transitions of trivalent cerium in these active media is substantiated.

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